

#9

1647

RECEIVED

MAY 15 2001

TECH CENTER 1600/2900

## [RAW SEQUENCE LISTING]

PATENT APPLICATION: US/09/473,551A

DATE: 05/01/2001.

TIME: 17:54:08

Input Set : A:\60299879.txt

Output Set: N:\CRF3\05012001\I473551A.raw

3 <110> APPLICANT: MILBRANDT, Jeffrey D.  
 4 BALOH, Robert H.  
 6 <120> TITLE OF INVENTION: GFR-alpha-1-RET Specific Agonists and Methods Therefor  
 8 <130> FILE REFERENCE: 6029-9879  
 C--> 10 <140> CURRENT APPLICATION NUMBER: US/09/473,551A  
 C--> 11 <141> CURRENT FILING DATE: 1999-12-28  
 13 <160> NUMBER OF SEQ ID NOS: 32  
 15 <170> SOFTWARE: PatentIn Ver. 2.0  
 17 <210> SEQ ID NO: 1  
 18 <211> LENGTH: 89  
 19 <212> TYPE: PRT  
 20 <213> ORGANISM: Homo sapiens  
 22 <400> SEQUENCE: 1  
 23 Cys Gln Leu Trp Ser Leu Thr Leu Ser Val Ala Glu Leu Gly Leu Gly  
 24 1 5 10 15  
 26 Tyr Ala Ser Glu Glu Lys Val Ile Phe Arg Tyr Cys Ala Gly Ser Cys  
 27 20 25 30  
 29 Pro Arg Gly Ala Arg Thr Gln His Gly Leu Ala Leu Ala Arg Leu Gln  
 30 35 40 45  
 32 Gly Gln Gly Arg Ala His Gly Gly Pro Cys Cys Arg Pro Thr Arg Tyr  
 33 50 55 60  
 35 Thr Asp Val Ala Phe Leu Asp Asp Arg His Arg Trp Gln Arg Leu Pro  
 36 65 70 75 80  
 38 Gln Leu Ser Ala Ala Ala Cys Gly Cys  
 39 85  
 42 <210> SEQ ID NO: 2  
 43 <211> LENGTH: 89  
 44 <212> TYPE: PRT  
 45 <213> ORGANISM: Mouse  
 47 <400> SEQUENCE: 2  
 48 Cys Arg Leu Trp Ser Leu Thr Leu Pro Val Ala Glu Leu Gly Leu Gly  
 49 1 5 10 15  
 51 Tyr Ala Ser Glu Glu Lys Val Ile Phe Arg Tyr Cys Ala Gly Ser Cys  
 52 20 25 30  
 54 Pro Gln Glu Ala Arg Thr Gln His Ser Leu Val Leu Ala Arg Leu Arg  
 55 35 40 45  
 57 Gly Arg Gly Arg Ala His Gly Arg Pro Cys Cys Gln Pro Thr Ser Tyr  
 58 50 55 60  
 60 Ala Asp Val Thr Phe Leu Asp Asp Gln His His Trp Gln Gln Leu Pro  
 61 65 70 75 80  
 63 Gln Leu Ser Ala Ala Ala Cys Gly Cys  
 64 85  
 67 <210> SEQ ID NO: 3  
 68 <211> LENGTH: 89  
 69 <212> TYPE: PRT  
 70 <213> ORGANISM: RAT  
 72 <400> SEQUENCE: 3

ENTERED

## RAW SEQUENCE LISTING

DATE: 05/01/2001

PATENT APPLICATION: US/09/473,551A

TIME: 17:54:08

Input Set : A:\60299879.txt

Output Set: N:\CRF3\05012001\I473551A.raw

```

73 Cys Arg Leu Trp Ser Leu Thr Leu Pro Val Ala Glu Leu Gly Leu Gly
74   1           5           10           15
76 Tyr Ala Ser Glu Glu Lys Ile Ile Phe Arg Tyr Cys Ala Gly Ser Cys
77           20           25           30
79 Pro Gln Glu Val Arg Thr Gln His Ser Leu Val Leu Ala Arg Leu Arg
80           35           40           45
82 Gly Gln Gly Arg Ala His Gly Arg Pro Cys Cys Gln Pro Thr Ser Tyr
83           50           55           60
85 Ala Asp Val Thr Phe Leu Asp Asp His His His Trp Gln Gln Leu Pro
86   65           70           75           80
88 Gln Leu Ser Ala Ala Ala Cys Gly Cys
89           85
92 <210> SEQ ID NO: 4
93 <211> LENGTH: 93
94 <212> TYPE: PRT
95 <213> ORGANISM: Homo sapiens
97 <400> SEQUENCE: 4
98 Cys Val Leu Thr Ala Ile His Leu Asn Val Thr Asp Leu Gly Leu Gly
99   1           5           10           15
101 Tyr Glu Thr Lys Glu Glu Leu Ile Phe Arg Tyr Cys Ser Gly Ser Cys
102           20           25           30
104 Asp Ala Ala Glu Thr Thr Tyr Asp Lys Ile Leu Lys Asn Leu Ser Arg
105           35           40           45
107 Asn Arg Arg Leu Val Ser Asp Lys Val Gly Gln Ala Cys Cys Arg Pro
108           50           55           60
110 Ile Ala Phe Asp Asp Asp Leu Ser Phe Leu Asp Asp Asn Leu Val Tyr
111   65           70           75           80
113 His Ile Leu Arg Lys His Ser Ala Lys Arg Cys Gly Cys
114           85           90
117 <210> SEQ ID NO: 5
118 <211> LENGTH: 93
119 <212> TYPE: PRT
120 <213> ORGANISM: Mouse
122 <400> SEQUENCE: 5
123 Cys Val Leu Thr Ala Ile His Leu Asn Val Thr Asp Leu Gly Leu Gly
124   1           5           10           15
126 Tyr Glu Thr Lys Glu Glu Leu Ile Phe Arg Tyr Cys Ser Gly Ser Cys
127           20           25           30
129 Glu Ser Ala Glu Thr Met Tyr Asp Lys Ile Leu Lys Asn Leu Ser Arg
130           35           40           45
132 Ser Arg Arg Leu Thr Ser Asp Lys Val Gly Gln Ala Cys Cys Arg Pro
133           50           55           60
135 Val Ala Phe Asp Asp Asp Leu Ser Phe Leu Asp Asp Asn Leu Val Tyr
136   65           70           75           80
138 His Ile Leu Arg Lys His Ser Ala Lys Arg Cys Gly Cys
139           85           90
142 <210> SEQ ID NO: 6
143 <211> LENGTH: 93
144 <212> TYPE: PRT

```

RAW SEQUENCE LISTING                      DATE: 05/01/2001  
 PATENT APPLICATION: US/09/473,551A        TIME: 17:54:08

Input Set : A:\60299879.txt  
 Output Set: N:\CRF3\05012001\I473551A.raw

```

145 <213> ORGANISM: RAT
147 <400> SEQUENCE: 6
148 Cys Val Leu Thr Ala Ile His Leu Asn Val Thr Asp Leu Gly Leu Gly
149   1           5           10           15
151 Tyr Glu Thr Lys Glu Glu Leu Ile Phe Arg Tyr Cys Ser Gly Ser Cys
152           20           25           30
154 Glu Ala Ala Glu Thr Met Tyr Asp Lys Ile Leu Lys Asn Leu Ser Arg
155           35           40           45
157 Ser Arg Arg Leu Thr Ser Asp Lys Val Gly Gln Ala Cys Cys Arg Pro
158           50           55           60
160 Val Ala Phe Asp Asp Asp Leu Ser Phe Leu Asp Asp Ser Leu Val Tyr
161   65           70           75           80
163 His Ile Leu Arg Lys His Ser Ala Lys Arg Cys Gly Cys
164           85           90
167 <210> SEQ ID NO: 7
168 <211> LENGTH: 94
169 <212> TYPE: PRT
170 <213> ORGANISM: Homo sapiens
172 <400> SEQUENCE: 7
173 Cys Gly Leu Arg Glu Leu Glu Val Arg Val Ser Glu Leu Gly Leu Gly
174   1           5           10           15
176 Tyr Ala Ser Asp Glu Thr Val Leu Phe Arg Tyr Cys Ala Gly Ala Cys
177           20           25           30
179 Glu Ala Ala Ala Arg Val Tyr Asp Leu Gly Leu Arg Arg Leu Arg Gln
180           35           40           45
182 Arg Arg Arg Leu Arg Arg Glu Arg Val Arg Ala Gln Pro Cys Cys Arg
183           50           55           60
185 Pro Thr Ala Tyr Glu Asp Glu Val Ser Phe Leu Asp Ala His Ser Arg
186   65           70           75           80
188 Tyr His Thr Val His Glu Leu Ser Ala Arg Glu Cys Ala Cys
189           85           90
192 <210> SEQ ID NO: 8
193 <211> LENGTH: 94
194 <212> TYPE: PRT
195 <213> ORGANISM: Mouse
197 <400> SEQUENCE: 8
198 Cys Gly Leu Arg Glu Leu Glu Val Arg Val Ser Glu Leu Gly Leu Gly
199   1           5           10           15
201 Tyr Thr Ser Asp Glu Thr Val Leu Phe Arg Tyr Cys Ala Gly Ala Cys
202           20           25           30
204 Glu Ala Ala Ile Arg Ile Tyr Asp Leu Gly Leu Arg Arg Leu Arg Gln
205           35           40           45
207 Arg Arg Arg Val Arg Arg Glu Arg Ala Arg Ala His Pro Cys Cys Arg
208           50           55           60
210 Pro Thr Ala Tyr Glu Asp Glu Val Ser Phe Leu Asp Val His Ser Arg
211   65           70           75           80
213 Tyr His Thr Leu Gln Glu Leu Ser Ala Arg Glu Cys Ala Cys
214           85           90
217 <210> SEQ ID NO: 9

```

RAW SEQUENCE LISTING                      DATE: 05/01/2001  
 PATENT APPLICATION: US/09/473,551A        TIME: 17:54:08

Input Set : A:\60299879.txt  
 Output Set: N:\CRF3\05012001\I473551A.raw

```

218 <211> LENGTH: 96
219 <212> TYPE: PRT
220 <213> ORGANISM: Homo sapiens
222 <400> SEQUENCE: 9
223 Cys Arg Leu Arg Ser Gln Leu Val Pro Val Arg Ala Leu Gly Leu Gly
224   1           5           10           15
226 His Arg Ser Asp Glu Leu Val Arg Phe Arg Phe Cys Ser Gly Ser Cys
227           20           25           30
229 Arg Arg Ala Arg Ser Pro His Asp Leu Ser Leu Ala Ser Leu Leu Gly
230   35           40           45
232 Ala Gly Ala Leu Arg Pro Pro Pro Gly Ser Arg Pro Val Ser Gln Pro
233   50           55           60
235 Cys Cys Arg Pro Thr Arg Tyr Glu Ala Val Ser Phe Met Asp Val Asn
236   65           70           75           80
238 Ser Thr Trp Arg Thr Val Asp Arg Leu Ser Ala Thr Ala Cys Gly Cys
239           85           90           95
245 <210> SEQ ID NO: 10
246 <211> LENGTH: 96
247 <212> TYPE: PRT
248 <213> ORGANISM: Mouse
250 <400> SEQUENCE: 10
251 Cys Arg Leu Arg Ser Gln Leu Val Pro Val Ser Ala Leu Gly Leu Gly
252   1           5           10           15
254 His Ser Ser Asp Glu Leu Ile Arg Phe Arg Phe Cys Ser Gly Ser Cys
255           20           25           30
257 Arg Arg Ala Arg Ser Gln His Asp Leu Ser Leu Ala Ser Leu Leu Gly
258   35           40           45
260 Ala Gly Ala Leu Arg Ser Pro Pro Gly Ser Arg Pro Ile Ser Gln Pro
261   50           55           60
263 Cys Cys Arg Pro Thr Arg Tyr Glu Ala Val Ser Phe Met Asp Val Asn
264   65           70           75           80
266 Ser Thr Trp Arg Thr Val Asp His Leu Ser Ala Thr Ala Cys Gly Cys
267           85           90           95
273 <210> SEQ ID NO: 11
274 <211> LENGTH: 109
275 <212> TYPE: PRT
276 <213> ORGANISM: MURINE
278 <400> SEQUENCE: 11
279 Ala Leu Ala His His His His His Asp Tyr Lys Asp Asp Asp Asp
280   1           5           10           15
282 Lys Gly Ser Cys Arg Leu Trp Ser Leu Thr Leu Pro Val Ala Glu Leu
283           20           25           30
285 Gly Leu Gly Tyr Ala Ser Glu Glu Lys Val Ile Phe Arg Tyr Cys Ala
286           35           40           45
288 Gly Ser Cys Pro Gln Glu Ala Arg Thr Gln His Ser Leu Val Leu Ala
289   50           55           60
291 Arg Leu Arg Gly Arg Gly Arg Ala His Gly Arg Pro Cys Cys Gln Pro
292   65           70           75           80
294 Thr Ala Phe Asp Asp Asp Val Thr Phe Leu Asp Asp Gln His His Tyr

```

## RAW SEQUENCE LISTING

DATE: 05/01/2001

PATENT APPLICATION: US/09/473,551A

TIME: 17:54:08

Input Set : A:\60299879.txt

Output Set: N:\CRF3\05012001\I473551A.raw

```

295                      85                      90                      95
297 His Ile Leu Arg Lys His Ser Ala Ala Ala Cys Gly Cys
298                      100                      105
301 <210> SEQ ID NO: 12
302 <211> LENGTH: 90
303 <212> TYPE: PRT
304 <213> ORGANISM: MURINE
306 <400> SEQUENCE: 12
307 Cys Arg Leu Trp Ser Leu Thr Leu Pro Val Ala Glu Leu Gly Leu Gly
308   1                      5                      10                      15
310 Tyr Ala Ser Glu Glu Lys Val Ile Phe Arg Tyr Cys Ala Gly Ser Cys
311                      20                      25                      30
313 Pro Gln Glu Ala Arg Thr Gln His Ser Leu Val Leu Ala Arg Leu Arg
314                      35                      40                      45
316 Gly Arg Gly Arg Ala His Gly Arg Pro Cys Cys Gln Pro Thr Ala Phe
317                      50                      55                      60
319 Asp Asp Asp Val Thr Phe Leu Asp Asp Gln His His Tyr His Ile Leu
320  65                      70                      75                      80
322 Arg Lys His Ser Ala Ala Ala Cys Gly Cys
323                      85                      90
326 <210> SEQ ID NO: 13
327 <211> LENGTH: 109
328 <212> TYPE: PRT
329 <213> ORGANISM: Mouse
331 <400> SEQUENCE: 13
332 Ala Leu Ala His His His His His His Asp Tyr Lys Asp Asp Asp Asp
333   1                      5                      10                      15
335 Lys Gly Ser Cys Arg Leu Trp Ser Leu Thr Leu Pro Val Ala Glu Leu
336                      20                      25                      30
338 Gly Leu Gly Tyr Ala Ser Glu Glu Lys Val Ile Phe Arg Tyr Cys Ala
339                      35                      40                      45
341 Gly Ser Cys Pro Gln Glu Ala Arg Thr Gln His Ser Leu Val Leu Ala
342                      50                      55                      60
344 Arg Leu Arg Gly Arg Gly Arg Ala His Gly Arg Pro Cys Cys Gln Pro
345  65                      70                      75                      80
347 Thr Ala Tyr Glu Asp Glu Val Thr Phe Leu Asp Asp Gln His His Tyr
348                      85                      90                      95
350 His Thr Leu Gln Glu Leu Ser Ala Ala Ala Cys Gly Cys
351                      100                      105
354 <210> SEQ ID NO: 14
355 <211> LENGTH: 90
356 <212> TYPE: PRT
357 <213> ORGANISM: Mouse
359 <400> SEQUENCE: 14
360 Cys Arg Leu Trp Ser Leu Thr Leu Pro Val Ala Glu Leu Gly Leu Gly
361   1                      5                      10                      15
363 Tyr Ala Ser Glu Glu Lys Val Ile Phe Arg Tyr Cys Ala Gly Ser Cys
364                      20                      25                      30
366 Pro Gln Glu Ala Arg Thr Gln His Ser Leu Val Leu Ala Arg Leu Arg

```

VERIFICATION SUMMARY                      DATE: 05/01/2001  
PATENT APPLICATION: US/09/473,551A        TIME: 17:54:09

Input Set : A:\60299879.txt  
Output Set: N:\CRF3\05012001\I473551A.raw

L:10 M:270 C: Current Application Number differs, Replaced Application Number  
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date